



Keloids Profile in the Dermatovenereology Clinic of RSUP Dr. M. Djamil Padang Indonesia from January 2014 to December 2018

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Abstract : Keloid is an abnormal scar that appears as an impact of the wound healing process. Trauma, skin tension, hormone, and genetics are the risk factors of keloid. This study was aimed to obtain the profile of keloid patients at Polyclinic of Dermatovenereology RSUP. Dr. M. Djamil Padang in the period 2014-2018. This was a retrospective descriptive study using data of medical records. The results showed that the incidence of keloid in the period 2014-2018 was 157 cases. Based on gender, females were the most (51.60%). The age group that had the highest in number was 15-24 years old (27.39%). Based on occupation, most were students (33 cases; 20,49%). The most common location of the lesion was on the chest, which accounted for 57 cases (36.31%). Seventy-six cases (48.41%) with interpretation big effect on patient life. Conclusion :Keloid was more common in females, age group 15-24 years old, and occupation as students. The most common location of the lesion was on the chest and a big effect on patient life.

Key words : keloids, profile.

Introduction

Keloids are abnormal scars that arise as a result of the wound healing process. Keloids occur due to excessive and uncontrolled synthesis and buildup of collagen in the skin that had previously been traumatized and wound healing.¹Collagen connective tissue is produced by fibroblast cells. Trauma, skin tension, hormones, and genetics are factors that cause to form keloid.² Keloid is a very disturbing problem if it arises on the face and ears. This can lead to decreased confidence. The recurrent keloid nature after treatment can also cause problems for sufferers.³

The diagnosis of keloids is made through clinical features, started as lesions that occur in the form of nodules, initially pink to purple and painful, itchy, or both. The epidermis appears smooth and the dermis portion of the lesion is palpable.⁴

Sherly Birawati *et al* //International Journal of PharmTech Research, 2020,13(4): 383-387.

DOI: <http://dx.doi.org/10.20902/IJPTR.2019.130410>

Keloids occur as soon as one to three months or can be more than one year after trauma or other precipitating factors. Grows across the wound line and does not undergo spontaneous regression with a low response to therapy.⁵

Keloids often occur between the ages of 10-30 years. Every year in developing countries, there are 100 million patients with complaints of scarring where 55 million of them are the result of elective surgery and 25 million other cases are the results of surgery from trauma cases.⁶The incidence of keloids is reported to occur between 4.5-16% of which 16% occur in black African races. The highest incidence of keloids occurs in blacks and Hispanics races. The incidence of keloids in Hawaii was found 5 times more in people of Japanese descent and 3 times more in people of Chinese descent than white people races (Polynesia).

Keloid gives complaints to patients in terms of cosmetics and clinical symptoms such as itching and so on.⁶The problem of controlling keloids is also still questioned because keloids are still recurrent after being treated.² This study aims to obtain the profile of keloids in the Dermatovenereology Clinic of RSUP Dr. M. Djamil Padang from January 2014 to December 2018.

Methods

This type of research is a retrospective descriptive study using data from research subjects taken from keloid medical record records from 2014 to 2018 in the Dermatovenereology Clinic of RSUP. Dr. M. Djamil Padang. The population is all-new cases recorded in the Dermatovenereology polyclinic and medical records installation of RSUP Dr. M. Djamil Padang from January 2014 to December 2018. The sample is all new cases diagnosed clinically by keloids in the medicalrecord installation of RSUP Dr. M. Djamil from 2014 to 2018.

Result

After conducting a retrospective study of keloids in the Medical Record Installation of RSUP Dr. M. Djamil Padang for the period of 2014 to 2018, data obtained according to the following variables:

Distribution of keloid cases based on the number of cases from January 2014 to December 2018 in the Dermatovenereology Polyclinic of RSUP Dr. M. Djamil Padang as many as 157 cases.

In Table 1 it can be seen that the number of keloid cases is more common in women, which is 81 cases (51.60%) compared to men, which is 76 cases (48.40%).

Table 1. Distribution of keloid cases according to sex

| Sex | Cases (n) | % |
|--------|-----------|-------|
| Male | 76 | 48.40 |
| Female | 81 | 51.60 |
| Total | 157 | 100 |

From Table 2, the most keloid cases were found in the 15-24 years age group with 43 cases (27.39%) and the lowest in the 1-4 year group was 1 case (0.63%).

Table 2. Distribution of Keloid cases according to age

| Age (year) | Patients (n) | % |
|------------|--------------|-------|
| <1 | - | - |
| 1-4 | 1 | 0,63 |
| 5-14 | 30 | 19,10 |
| 15-24 | 43 | 27,39 |
| 25-44 | 26 | 16,57 |
| 45-64 | 20 | 12,74 |
| ≥65 | 37 | 23,57 |
| Total | 157 | 100 |

Distribution of keloid cases based on the occupation of a total of 157 patients keloid cases occurs most in patients as student status that is as many as 33 cases (17.19%). The lowest was in the patients with the status offarmers and entrepreneurs, respectively 11 cases (7.30%) and 10 cases (6.35%).

Table 3. Distribution of Keloid cases according to occupation

| Occupation | Patients (n) | % |
|---------------|--------------|-------|
| Housewives | 31 | 19.80 |
| Civil Servant | 15 | 9.59 |
| Employee | 27 | 17.19 |
| Student | 33 | 20.49 |
| Retired | 15 | 9.53 |
| Entreprenur | 10 | 6.35 |
| Farmer | 11 | 7.30 |
| Unknown | 15 | 9.75 |
| Total | 157 | 100 |

Most keloids are found in the chest area as many as 57 cases (36.31%) and the lowest area affected by keloids is as many as 2 cases (1.28%) which is in the face and neck area.

Table 4. Distribution of keloid cases according to the location of the lesion

| The location of the lesion | Patients (n) | % |
|----------------------------|--------------|-------|
| Face | 2 | 1,27 |
| Ears | 5 | 3,19 |
| Neck | 2 | 1,28 |
| Chest | 57 | 36,31 |
| Abdomen | 17 | 10,83 |
| Back | 16 | 10,19 |
| Upper Extremity | 20 | 12,73 |
| Lower Extremity | 15 | 9,56 |
| Combination | 23 | 14,64 |
| Total | 157 | 100 |

From Table 5, the Dermatology Life Quality Index (DLQI) is obtained with the most interpretation, which is a high impact influence on the lives of patients in 76 cases (48.41%).

Table 5. Dermatology Life Quality Index (DLQI)

| Interpretation | Patients (n) | % |
|------------------|--------------|-------|
| Low Impact | 26 | 16.56 |
| Medium Impact | 31 | 9,75 |
| High Impact | 76 | 48.41 |
| Very High Impact | 24 | 15.28 |
| Total | 157 | 100 |

Family genetic history of a total of 157cases of keloid patients shows total around 132 cases (84.07%).

Table 6. Family genetic history

| Genetic | Patients (n) | % |
|---------|--------------|-------|
| Exist | 132 | 84.07 |
| Unknown | 25 | 15.93 |
| Total | 157 | 100 |

Discussion

In Indonesia, based on the results of observational studies conducted at Dr. Soetomo Surabaya Hospital, in 30 cases of keloids, data obtained that 76.7% of keloid sufferers were most women at the age of 10-30 years.¹

Research on keloids in RSUP Prof. Dr. R.D. Kandou Manado in January 2008 - December 2010 with 61 keloid patients. The highest number of patients in 2010 was 23 patients. Based on sex, women had a higher incidence of 62.3% cases compared to men, which amounted to only 37.7% of keloid cases.⁷

In keloid distribution based on the work obtained by most are students with 33 cases (20.49%) (Table 3). This finding is the result of previous research on cases of keloids that are mostly found in groups aged 15-24 years who are still high school students and students. Students during puberty have androgen hormone levels that often cause acne. Acne can leave acne scars which may be one of the risk factors for keloids.^{3, 10} In addition, students may be prone to trauma during activities so this can be a risk factor for keloids. But the data obtained does not discuss the occupation of these patients at higher risk due to trauma. Another occupational status such as civil servants, private sector, and entrepreneurs also do not contain specific details for daily medical activities, so the authors find it difficult to find a relationship between the patient's work with the incidence of keloids.

In the period January 2014 - December 2018 at the Polyclinic of the Dermatovenereology of RSUP Dr. M. Djamil Padang found 157 cases of keloids. Distribution of keloid cases according to sex during this study at RSUP Dr. M. Djamil Padang for the period January 2014 - December 2018, the number of keloid cases consisted of 81 cases (51.60%) in women and 76 cases (48.40%) in men (Table 1), in which cases of keloids were more common in women compared to men. Although in this study the incidence of keloids is higher in women than in men, the results are not too significant between men and women. This is in line with the theory that keloid cases are more common in women than men.^{6, 8} The incidence of keloid cases in women more than men may be because women feel more disturbed by the appearance of keloid appearance that often enlarges beyond the original wound so it tends to check themselves to the doctor.⁹

Keloid seen from its distribution based on age, it was found that the most age group for keloid cases was 15-24 years as many as 43 cases (27.39%) and the lowest was at age 1-4 years which was as many as 1 cases (0.63%) (Table 3). This is in line with the theory which states that keloids are common in younger people.¹⁰

This may be due to the young age is an age susceptible to trauma due to the many activities carried out daily. In addition to this, acne scars due to acne that often arise at this age can be one of the risk factors for keloids.¹¹

The distribution of keloid cases based on the location of lesions found the most cases in the chest area as many as 57 cases (36.31%) (Table 4). The results of this study are not in line with the theory that keloids often arise in the ear region due to the tradition of ear piercing performed by women.^{6,8} Keloids often arise in the chest area may be associated with acne scars on the chest that experience the process of wound healing that is less well. The chest is one of the most common places for acne and areas that have high skin tension.¹² Acne will leave acne scars after they break out.^{3,10}

Acne scars on the chest area will experience a poor healing process because these areas are areas of high skin tension.¹¹ In the Dermatology Quality Life Index (DLQI) assessment, it was found that keloids have amajor effect on the quality of life of patients. Family genetic history was obtained in 132 cases out of 157 cases, 25 cases unknown.

Conclusion

From the results of research on the profile of keloids in the Dermatovenereology Clinic of RSUP. Dr. M. Djamil Padang from January 2014 to December 2018, it can be concluded that the highest percentage was found in the female sex, age group 15-24 years, occupation as a student, and location of lesions is in the chest area.

Suggestion

1. Comprehensiveness in filling the patient's status is very necessary to support a complete, accurate, and informative data collection.
2. Data collection and record-keeping of medical records must be considered.
3. Further research needs to be done on the relationship between occupation and the incidence of keloids.

Acknowledgement

We wish to thank to all those who have helped in the implementation of this research.

References

1. Goldsmith LA, Katz SI, Gilchrest BA, Paller SA, Leffel DJ, Wolf K editor. Fitzpatrick's Dermatology in General Medicine (8th ed). New York: McGraw-Hill, 2012; p. 708-10.
2. O'Toole EA, Mellerio JE. Wound healing. In: Burns T, Breathnach S, Cox N, Griffiths C editors. Rook's Textbook of Dermatology (8th ed). UK: Wiley Blackwell, 2010; p.14.5.
3. Sukasah CL. Penggunaan silicone gel sheet pada keloid dan jaringan parut hipertropik. *MajKedoktIndon.* 2007;57(2):1-3.
4. Robins JK, Hanke CW, Siegel DM, Fratila A. Keloid. In: Berman B, Amini S, Baldwin H editors. *Surgery of the Skin : Procedural Dermatology* (3rd ed). Philadelphia: Saunders Elsevier, 2015; .p. 673-87.
5. Butler DP, Longaker TM, Yang PG. Current Progress in Keloid Research and Treatment. Elsevier Inc. 2008;206(4):731-41.
6. Pratiwi DK, Perdanakusuma D. Hubungan antara Golongan Darah dengan Timbulnya Keloid Pascaluka. Surabaya: Airlangga University Press; 2009.
7. Oroh AG. Profil keloid di Poliklinik Kulit dan Kelamin RSUP Prof. Dr. R. D. Kandou Manado periode Januari 2008 – Desember 2010 [karyatulisilmiah]. Manado: Fakultas Kedokteran Universitas Sam Ratulangi; 2011.
8. Kryger BZ. Hypertrophic scars and keloids. In: Kryger BZ, Sico M editors. *Practical Plastic Surgery*. Georgetown: Landes Bioscience, 2007; p. 17-20.
9. Gawkrödger, David J, Michael R, Ardern J. *Dermatology: An Illustrated Color Text* (5th ed). Philadelphia: Elsevier; 2012; p. 95.
10. Nast A, Eming S, Fluhr J, et al. German S2k guidelines for the therapy of pathological scars (hypertrophic scars and keloids). *J Dtsch Dermatol Ges.* 2012;10(10):747-62.
11. Robins JK, Hanke CW, Siegel DM, Fratila A. Keloid. In: Berman B, Amini S, Baldwin H editors. *Surgery of the Skin : Procedural Dermatology* (3rd ed). Philadelphia: Saunders Elsevier, 2015; p. 673-87.
12. Ramdani R, Sibero HT. Treatment for acne vulgaris. *J Majority.* 2015;4(2): 87-95.
